

IN THE CLAIMS

1. (CURRENTLY AMENDED) A method for measuring efficacy of a compound ~~in~~ to alter recoding of a translational reading frame, comprising:
 - a) constructing a nucleic acid cassette by inserting a recoding causing sequence ~~suspected of causing said recoding~~ upstream of a translational reading frame consisting of an MHC I restricted epitope encoding sequence, wherein said recoding causing sequence ~~suspected of causing said recoding~~ is placed in an alternative reading frame or beyond an upstream stop codon from that of said epitope encoding sequence so that recoding of said recoding causing sequence must take place in order for ~~said~~ an MHC I restricted epitope to be expressed;
 - b) inserting said nucleic acid cassette of step a) into an expression vector;
 - c) infecting cells expressing an appropriate MHC class I molecule with said expression vector of step b);
 - d) applying a compound to said cells; and
 - e) determining efficacy of said compound ~~in recoding of said translational reading frame by an activation of epitope specific~~ to alter recoding of the recoding causing sequence by measuring activation of CD8+ T-cells specific for the epitope encoded by the epitope encoding sequence, wherein difference in activation of said T-cells compared to a control, wherein no compound has been added to the cells, indicates ~~said nucleic acid sequence that is inserted upstream of said epitope causes~~ that the compound has capacity to alter recoding of the recoding causing sequence.
2. (CURRENTLY AMENDED) The method of claim 1, ~~comprising wherein the recoding causing sequence causes~~ a -1 frameshifting event as said recoding of said translational reading frame.

3. (CURRENTLY AMENDED) The method of claim 1, ~~comprising wherein the recoding causing sequence causes~~ a +1 frameshifting ~~as said recoding of said translational reading frame.~~
4. (CURRENTLY AMENDED) The method of claim 1, ~~comprising wherein the recoding causing sequence causes~~ a stop codon readthrough or a redefinition event ~~as said recoding of said translational reading frame.~~
5. (CURRENTLY AMENDED) The method of claim 1, wherein said recoding causing sequence ~~suspected of causing said recoding~~ comprises a sequence of a viral gene, wherein recoding of said recoding causing sequence results in translation of a protein.
6. (CURRENTLY AMENDED) The method of claim 1, wherein said recoding causing sequence ~~suspected of causing said recoding~~ comprises a gene sequence comprising a mutation ~~in one nucleotide~~ resulting in a premature stop codon in a said protein encoded by said gene sequence.
7. (CURRENTLY AMENDED) The method of claim 1, wherein said recoding causing sequence ~~suspected of causing said recoding~~ comprises a gene sequence encoding a protein influencing cell proliferation.
8. (CURRENTLY AMENDED) A method for measuring whether a test compound is capable of ~~influencing~~ altering recoding of a translational reading frame, comprising:
 - a) constructing a nucleic acid cassette by inserting a nucleic acid sequence suspected of causing said recoding upstream of an MHC I restricted epitope encoding nucleic acid sequence, wherein said sequence ~~suspected of causing said recoding~~ is placed in an alternative reading frame, or beyond an upstream stop codon, from that of said epitope encoding sequence so that recoding of said sequence must take place in order for said MHC I restricted epitope to be expressed;
 - b) inserting said nucleic acid cassette of step a) into an expression vector thereby allowing for expression of said MHC I restricted epitope in said expression vector;
 - c) infecting a mouse expressing an appropriate MHC class I molecule with said MHC I restricted epitope encoding sequence expressing vector of step b);

- d) administering ~~said~~ a test compound to said mouse;
 - e) expressing said MHC I restricted epitope in said mouse of step d); and
 - f) measuring an activation of epitope specific CD8+ T-cells, wherein ~~such change~~ in the activation compared to CD8+ cells taken from a mouse not treated with the test compound indicates ~~that~~ said compound is capable of ~~influencing~~ altering recoding of a translational reading frame.
9. (CURRENTLY AMENDED) The method of claim 8, further comprising magnifying said MHC I restricted epitope specific CD8+ T-cells by restimulation *in vitro* with cells expressing said epitope.
10. (CURRENTLY AMENDED) The method of claim 8, comprising varying an amount of said test compound given to said mouse and measuring activation of the epitope specific CD8+ T-cells after administration of each amount of test compound to detect changes in recoding efficiency.
11. (CURRENTLY AMENDED) The method of claim 8, ~~comprising, wherein the recoding causing sequence causes~~ comprising, wherein the recoding causing sequence causes a -1 frameshifting event ~~as said recoding of said translational reading frame.~~
12. (CURRENTLY AMENDED) The method of claim 8, ~~comprising, wherein the recoding causing sequence causes~~ comprising, wherein the recoding causing sequence causes a +1 frameshifting event ~~as said recoding of said translational reading frame.~~
13. (CURRENTLY AMENDED) The method of claim 8, ~~comprising, wherein the recoding causing sequence causes~~ comprising, wherein the recoding causing sequence causes a stop codon readthrough or redefinition event ~~as said recoding of said translational reading frame.~~
14. (CURRENTLY AMENDED) The method of claim 8 wherein said sequence ~~suspected of~~ causing ~~said~~ recoding comprises a sequence in a viral gene wherein recoding of said sequence results in translation of a protein.
15. (CURRENTLY AMENDED) The method of claim 8 wherein said sequence ~~suspected of~~ causing ~~said~~ recoding comprises a sequence in a gene wherein said sequence comprises a mutation in one nucleotide resulting in a premature stop codon in a gene encoding a protein, thereby causing a premature termination of said protein.

16. (CURRENTLY AMENDED) The method of claim 8 wherein said sequence ~~suspected of~~ causing ~~said~~ recoding, comprises a sequence in a gene encoding a ~~protein, said~~ protein influencing proliferation of a cell.
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24. (NEW) A method of identifying a recoding causing sequence, the method comprising the steps of:
 - a) constructing a nucleic acid cassette by inserting a sequence suspected of causing recoding upstream of a translational reading frame consisting of an MHC I restricted epitope encoding sequence, wherein said sequence suspected of causing recoding is placed in an alternative reading frame or beyond an upstream stop codon from that of said epitope encoding sequence so that recoding of said sequence suspected of causing recoding must take place in order for said epitope to be expressed;
 - b) inserting said nucleic acid cassette of step a) into an expression vector;
 - c) infecting cells expressing an appropriate MHC class I molecule with said expression vector of step b); and
 - e) measuring activation of CD8⁺ T-cells specific for the epitope encoded by the epitope encoding sequence, wherein activation of said CD8⁺ T-cells indicates identification of a recoding causing sequence.
25. (NEW) The method of claim 23, wherein measuring activation is performed by measuring expansion of CD8⁺ T-cells.